

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

CONDITIONAL MAJOR (DRAFT PERMIT) ID: F-06-056

ALCAN COMPOSITES USA, INC.

BENTON, KY 42025

JUNE 11, 2007

RICK SHEWEKAH, REVIEWER

SOURCE ID: 21-157-00027

AGENCY INTEREST #: 2916

ACTIVITY ID: APE20050001

**SOURCE DESCRIPTION:**

Alcan Composites USA, Inc. (Alcan), previously Alusuisse Composites, Inc., is located in Benton, Kentucky, and operates an existing facility that manufactures two (2) product type identified as Sintra and Alucobond sheets. The Sintra sheet is a rigid, foamed PVC sheet produced by combining PVC in powder form with the needed additives. Sintra production is comprised of two (2) operations: the compounding operation and the Sintra Line. The compounding operation consists of dry materials storage (PVC silos and additives stored in sacks), measuring, mixing and transfer to the Sintra line. The Sintra line consists of four (4) Sintra extruders which feed extruded sheets to a series of rollers that control the temperature and thickness of the sheets, with trimming and cutting of finished sheets occurring when the sheets are cooled to a rigid state.

Alucobond is a building material formed by bonding painted aluminum sheets to each side of an extruded polyethylene core. Alcan has two (2) production lines comprising its Alucobond manufacturing system: the paint line and the Alucobond line. The paint line consists of aluminum coil unwind, two-sided paint roll coating of the unwound aluminum sheet, sheet feed through the drying oven with captured organic compound emissions ducted to the existing thermal oxidizer, quenching, and coil rewind for use at the Alucobond Line. The Alucobond Line consists of dry polyethylene fed to an extruder, with the extruded sheets combined with (i.e., placed between) two unwound aluminum sheets using heated rollers, and cutting of finished sheets.

This source has been operating pursuant to the requirements of current permit S-98-093, issued November 6, 1998. This permit was issued as a State Origin/Conditional Major permit pursuant to 401 KAR 50:035. This permitting rule has since been repealed and replaced with separating permitting provisions, including 401 KAR 52:020 (Title V Permits), 52:030 (Conditional Major Permits), and 52:040 (State Origin Permits). The permittee requested on February 6, 2003 that the existing operating permit be renewed pursuant to 401 KAR 52:030 as a Conditional Major Permit. In so doing, the permittee also requested that the voluntary hazardous air pollutant (HAP) emission limitations of Permit No. S-98-093 be increased to 90% of the major source threshold, as defined in 401 KAR 52:020 (Title V). This is consistent with other Conditional Major sources and such is incorporated herein.

**COMMENTS:**

Since the issuance of permit S-98-093, some equipment has been added to the facility. The following table provides a concise description of each emission unit at this source and changes, if any, to that equipment as requested by the permittee, and as included in this renewed permit.

Emission Points Listed Under Permit S-98-093		Emission Points - Current Status		Explanation of Change
EP #	Emission Point Description	EP #	Emission Point Description	
01 & 02	Double-Sided Coil Coating Line, and Drying Oven Coil Coater and Drying Oven by Hunter Engineering Co. Inc, 1988. Bottom Coater added to Coil Coater, 1999. Vented to Thermal Incinerator, Smith Environmental Corp. 1988	01	Double Sided Coil Coating Line ( <b>fugitives</b> ) Installation date: 1988 <b>Control equipment:</b> <b>None</b>	Emission points 1 and 2 changed description EP# 01 is the fugitive estimated emissions from the coil coater and oven unit
		02	Double Sided Coil Coater & Drying Oven ( <b>stack</b> ) Manufacturer: Hunter Engineering Co. Inc Installation date: 1988 <b>Control equipment:</b> Thermal oxidizer Manufacturer: Smith Environmental Corp. Burner rating: 12,000,000 Btu/hr Installation date: 1988	Emission points 1 and 2 changed description EP# 02 is the stack emissions from the same coil coater and oven unit
		09 (09)	Sintra extruders (1, 2, 3, 4)	Was not a significant activity in previous permit
<b>Insignificant activities</b>				
03 (03)	Two polyethylene grinders	03 (03)	Two polyethylene grinders	No change
04 (04)	PVC Compounder	04 (04)	PVC Compounder	No change
05 (05)	Truck to Silo Transfer System	05 (05)	Truck to Silo Transfer System	No change
06 (06)	PVC Compounder transfer system: mixer to silos	06 (06)	PVC Compounder transfer system: mixer to silos	No change
07 (07A, 07B, 07C)	Three portable Sintra Grinders	07 (07A, 07B, 07C)	Three portable Sintra Grinders	No change
08 (08)	PVC Compounder transfer system: silos to Sintra extruders (1, 2, 3, 4)	08 (08)	PVC Compounder transfer system: silos to Sintra extruders (1, 2, 3, 4)	No change

Emission Points Listed Under Permit S-98-093		Emission Points - Current Status		Explanation of Change
EP #	Emission Point Description	EP #	Emission Point Description	
09 (09)	Sintra extruders (1, 2, 3, 4)			Has been classified as a significant activity due to PTE.
10 (10)	Sintra sawing, Lines 1, 2, 3, 4	10 (10)	Sintra sawing, Lines 1, 2, 3, 4	No change
11 (11)	Emergency Diesel Generator Capacity: 300 KW	11 (11)	Emergency Diesel Generator Capacity: 300 KW	No change
12 (12)	Sintra Line Contact Cooling Tower Capacity: 250 gal/min.	12 (12)	Sintra Line Contact Cooling Tower Capacity: 250 gal/min.	No change
13 (13)	Alucobond Line Non-contact Cooling Tower Capacity: 300 gal/min	13 (13)	Alucobond Line Non-contact Cooling Tower Capacity: 300 gal/min	No change
14 (14)	Paint Line Non-contact Cooling Tower Capacity: 120 gal/min	14 (14)	Paint Line Non-contact Cooling Tower Capacity: 120 gal/min	No change
		15 (15)	Solvent Recovery Still and Vacuum Receiver	New emission point – Minor permit revision request (January 30, 2003, Division approved on February 12, 2003)
		16 (16)	Emergency Generator Capacity: 587 hp (438 KW), 300-gallon diesel tank	New emission point – administrative amendment request (April 28, 2003, Division approved during this review)
		17 (17)	Enercon Model APT 12/2 Plasma Treater on Sintra Line 1 (6000 – 7000 V)	New emission point – administrative amendment request (January 9, 2006 Division approved during this review)
		18 (18)	Enercon Model APT 12/2 Plasma Treater on Sintra Line 2 (6000 – 7000 V)	New emission point – administrative amendment request (January 9, 2006, Division approved during this review)

***Type of control and efficiency:***

The VOC emissions from the Double Sided Coil Coater and Drying Oven are controlled by a thermal oxidizer with 98.7% control efficiency (99.9% capture efficiency and 98.8% destruction efficiency).

***Emission factors and their source:***

Emission points 1 and 2 (significant sources): MSDS sheets, material balance and control system stack testing. The VOC and organic HAP contents for the applied coatings are taken from MSDS sheets to calculate VOC emissions. The VOC emissions from painting operation are calculated as if 100% would be emitted from the spray stations or paint rooms where applied. However, approximately 25% of the VOC in the applied coating would be carried over to the curing oven where it would be released.

Insignificant activities: AP-42, engineering estimates, and manufacturer's recommendation.

***Applicable regulation:***

401 KAR 60:005 incorporating by reference 40 CFR 60, Subpart TT, *Standards of Performance for Metal Coil Surface Coating*, applicable to facilities commencing construction, modification, or reconstruction after January 5, 1981.

401 KAR 63:010, *Fugitive Emissions*.

***Nonapplicable Regulations:***

401 KAR 60:005, incorporating by reference 40 CFR 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, does not apply to the two (2) emergency generators, each as an insignificant activity, since both units were installed prior to July 11, 2005 .

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart MMMM, *National Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, does not apply since the source is not a major source of HAPs as defined at 40 CFR 63.2.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart SSSS, *National Standards for Hazardous Air Pollutants for Surface Coating of Metal Coil*, does not apply since the source is not a major source of HAPs as defined at 40 CFR 63.2.

401 KAR 63:002, incorporating by reference 40 CFR 63 Subpart Q, *National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers*, does not apply to the cooling towers, as insignificant activities, since these units do not use chromium-based water treatment chemicals, nor is this a major source of HAP emissions, as defined at 40 CFR 63.2.

401 KAR 61:132, *Existing Miscellaneous Metal Parts and Products Surface Coating Operations*, does not apply since the facilities were constructed after February 4, 1981 and the source is not located in a county or portion of a county which is designated ozone nonattainment, for any nonattainment classification except marginal, under 401 KAR 51:010.

401 KAR 59:225, *New Miscellaneous Metal Parts and Products Surface Coating Operations*, does not apply since the source is not located in a county or portion of a county which is designated ozone nonattainment, for any nonattainment classification except marginal, under 401 KAR 51:010.

401 KAR 50:012, Section 1, *General Application of Administrative Regulations and Standards*. Pursuant to 401 KAR 50:012, Section 1(2), in the absence of a standard specified in these administrative regulations, all major air contaminant sources shall as a minimum apply control procedures that are reasonable, available, and practical. This rule does not apply to this source because it is not a major source of air contaminants and the requirements of 40 CFR 60, Subpart TT are applicable.

401 KAR 59:050, *New storage vessels for petroleum liquids*, does not apply to the one (1) 300 gallon diesel fuel storage tanks because the tank capacity is less than the 580 gallon rule applicability threshold and it does not store petroleum liquids as defined in the rule.

40 CFR 64, *Compliance Assurance Monitoring (CAM)*, does not apply to any emission unit because this source is being approved to operate under a Conditional Major permit and, pursuant to 40 CFR 64.2(a), the requirements of this rule are applicable only to a source required to obtain a Title V (Part 70 or 71) permit.

**EMISSION AND OPERATING CAPS DESCRIPTION:**

To preclude the applicability of 401 KAR 52:020, *Title V permits*, the permittee has elected to accept source wide limits as follows: 9 TPY for a single HAP, 22.5 TPY for combined HAPs and 90 TPY for VOCs. Compliance with these limits shall also make the requirements of 40 CFR Part 63 for major sources of HAP emissions, as incorporated by reference at 401 KAR 63:002, not applicable to this source.

**PERIODIC MONITORING:**

Pursuant to 40 CFR 60.464 (Subpart TT) the permittee shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with 40 CFR 60.462(a)(2), (3), or (4). This device shall have an accuracy of  $\pm 2.5^{\circ}\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater.

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.